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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Srinivas Kandala

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12/19/2006

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EXAMINER

SHINGLES, KRISTIE D

ART UNIT

PAPER NUMBER

2141

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

12/19/2006

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b> 09/823,511	<b>Applicant(s)</b> KANDALA, SRINIVAS	
	<b>Examiner</b> Kristie Shingles	<b>Art Unit</b> 2141	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 20 September 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Amendments*

*Claims 1, 5, 11, 15, 21 and 25 have been amended.*

*Claims 1-30 are pending.*

### *Response to Arguments*

Applicant's arguments with respect to claims 1, 5, 11, 15, 21 and 25 have been considered but are moot in view of the new ground(s) of rejection. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action.

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1, 5, 6, 8, 9, 11, 15, 16, 18, 19, 21, 25, 26, 28 and 29** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Young et al* (US 6,600,754) in view of *Morris et al* (US 2002/0046381) and *Ho et al* (US 7,039,032).

a. Per claim 5, *Young et al* teach the device comprising:

- a memory (col.2 lines 60-62); and
- a processor coupled with the memory, the processor adapted to: wirelessly transmit a reservation request to a first device for wireless communications with

Art Unit: 2141

the first device (col.3 lines 8-20, col.5 lines 7-64, col.7 lines 17-50, col.9 lines 18-28—transmission of slot reservation schedule to nodes);

- during the first time window, wirelessly receive a rescheduling frame, where the rescheduling frame is received only if the data exchange between the first device and the second device is completed before the end time of the first time window, and not received at other times (col.13 lines 15-21—standbyfree bootstrap packet is received only if the second node has an unused time slot);
- in response to the rescheduling frame, dynamically reset the start time of the second time window to begin before the end time of the first time window (col.9 lines 23-28, col.13 lines 15-21); and
- before the end time of the first time window, wirelessly exchange data with the first device (col.9 lines 23-28, col.13 lines 15-21).

*Morris et al* further teach the use of a remote station's idle time slots by other remote stations and reassignment of the scheduled slot time (page 3 paragraph 0028; page paragraph 0102; pages 13-14 paragraphs 0123-0128; page 14 paragraph 0134). *Young et al* and *Morris et al* both teach distributing station/node assignment schedules, yet, *Young et al* and *Morris et al* fail to explicitly disclose wirelessly receiving a multi-poll scheduling frame and decoding from the multi-poll scheduling frame a schedule for wireless communications, the schedule specifying a start time and an end time for a first time window, the schedule specifying a start time and an end time for a second time window, the second time window after and not overlapping the first time window, the first time window for data exchange between the first device and a second device, the second time window for data exchange between the first device and the device. However, *Ho et al* teach the device wirelessly receiving a multi-poll scheduling frame wherein the schedule is wirelessly communicated to peripheral stations indicating the permissible non-conflicting start and end time for data exchange (col.3 lines 3-18, col.20 lines 4-55, col.22 line 28-col.23 line 4, col.23 lines 29-57).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of *Young et al* and *Morris et al* with *Ho et al* for wirelessly communicating the scheduling frame to the requesting device in order to indicate the specified reserved time period for it device to exchange data with the desired device. This is a common technique used in the art in order to efficiently schedule communication with multiple devices via channels, for the purpose of organizing communication reservation request and reserving the necessary resources for the requested data communication thereby eliminating conflicting/colliding transmissions or over-scheduling.

b. **Claims 1, 11, 15, 21 and 25** contain limitations that are substantially similar to claim 5 and are therefore rejected under the same basis.

c. **Per claims 6, 16 and 26**, *Young et al* and *Morris et al* with *Ho et al* teach the device of claim 5, *Young et al* further teach the device wherein the second time window is rescheduled to start immediately after the rescheduling frame (col.9 lines 23-28, col.13 lines 15-21; *Morris et al*: page 3 paragraph 0028; page paragraph 0102; page 13 paragraphs 0123-0127).

d. **Per claims 8, 18 and 28**, *Young et al* and *Morris et al* with *Ho et al* teach the device of claim 5, *Ho et al* further teach the device wherein the processor is further adapted to: decode from the received multi-poll scheduling frame periodicity data about alternating the first time window and the second time window (col.22 line 28-col.23 line 4, col.23 lines 29-57; *Morris et al*: page 2 paragraph 0027; page 3 paragraph 0032; page 10 paragraph 0095).

e. **Claims 9, 19 and 29** are substantially similar to claims 6, 16 and 26 respectively, and are therefore rejected under the same basis.

Art Unit: 2141

3. Claims 2, 7, 10, 12, 17, 20, 22, 27 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Young et al* (US 6,600,754) in view of *Morris et al* (US 2002/0046381) and *Ho et al* (US 7,039,032) in further view of *Kamel et al* (US 6,374,103).

a. Per claim 2, *Young et al* and *Morris et al* with *Ho et al* teach the device of claim 1, as applied above. *Young et al* teaches a standby free bootstrap frame (col.13 lines 15-21) and *Morris et al* teaches an unused/vacant frame (pages 13-14 paragraphs 0123-0128), yet fail to explicitly teach the device wherein the rescheduling frame is a null frame. However, *Kamel et al* teach time slots filled with null messages for the mobile devices (Abstract, col.1 line 46-col.2 line 6 and col.2 line 48-col.3 line 65). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the multi-polling, dynamic scheduling and rescheduling teachings of *Young et al*, *Morris et al* and *Ho et al* with *Kamel et al* for permitting a null frame in the time slot of the rescheduling process of the transmission to the mobile device for selectively or dynamically filling the frame with a timing value.

b. Claims 7, 10, 12, 17, 20, 22, 27 and 30 are substantially similar to claim 2 and are therefore rejected under the same basis.

4. Claims 3, 4, 13, 14, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Young et al* (US 6,600,754) in view of *Morris et al* (US 2002/0046381) and *Ho et al* (US 7,039,032) with *Kamel et al* (US 6,374,103), in further view of *Cohen* (US 6,332,153).

a. Per claims 3, 13 and 23, *Young et al*, *Morris et al* and *Ho et al* with *Kamel et al* teach the device of claim 1, yet fail to explicitly teach the device, wherein the generated schedule provides for exchanging data with only the second peripheral device during a second time windows and that the second time window alternate with the first time window according to a periodicity, and the processor is further adopted to: encode data about the periodicity in the

Art Unit: 2141

multi-poll scheduling frame. However, *Cohen* teaches exchanging data only with the second device during a predetermined time period and subsequently alternating communication with the second device and the first device periodically while updating indicia identifying the current transmitting device (col.2 lines 2-47, col.6 lines 11-28).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the multi-polling, scheduling and rescheduling teachings of *Young et al*, *Morris et al*, *Ho et al* and *Kamel et al* with *Cohen* for permitting periodically alternating the time period for exchanging data with the first device and with the second because this allows for a fixed schedule to be maintained with both devices based on their communication tendency and frequency for exchanging data.

b. **Claims 4, 14 and 24** are substantially similar to claim 2 and are therefore rejected under the same basis.

### *Conclusion*

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Jones et al (6,003,061 and 6,584,489), Dail et al (5,953,344), Papadopoulos et al (5,594,720), Wegrzyn (5,729,540), Janky et al (6,512,928), Drakopoulos et al (5,506,848).

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

Art Unit: 2141

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kristie Shingles whose telephone number is 571-272-3888. The examiner can normally be reached on Monday-Friday 8:30-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on 571-272-3880. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Kristie Shingles*  
Examiner  
Art Unit 2141

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SUPERVISORY PATENT EXAMINER